

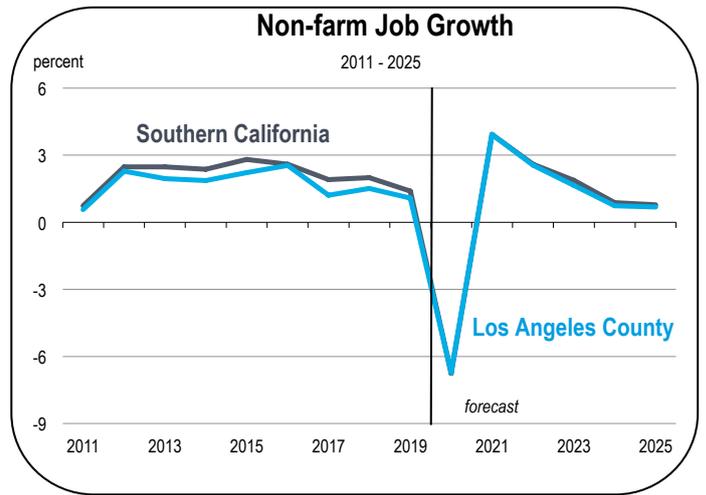
Los Angeles County Economic Forecast

Forecast Summary

- It is estimated that an average of 275,000 to 325,000 jobs will be lost in Los Angeles County during 2020. Job losses will be heavy in the first half of the year, rebounding in the second half.
- Employment losses will be largest in professional business services, retail, manufacturing, and information.
- The unemployment rate averaged 4.4 percent in 2019. It will average between 11 and 13 percent for the 2020 calendar year.
- The population is expanding slower than broader Southern California, and this trend will continue. Because of high home prices, net migration will remain negative.
- Housing production will fall sharply in 2020 but should rebound just as robustly in 2021.
- Home prices are not expected to change much during 2020 or 2021. There will be fewer home buyers in the market, but the drop in demand will be matched by a similar drop in the supply of homes for sale.

Job Growth

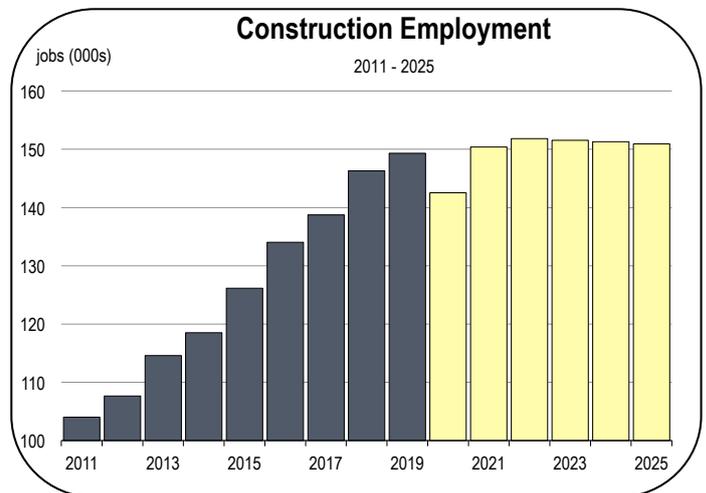
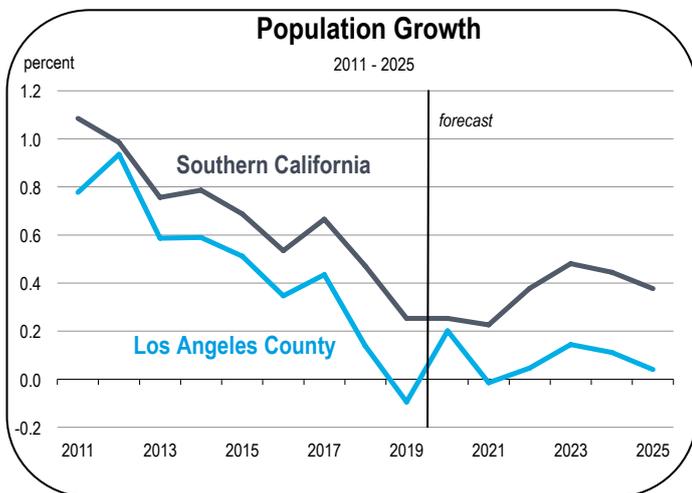
- Total employment in Los Angeles County will decline between 6 and 7 percent in 2020. This is an annual average change from 2019.



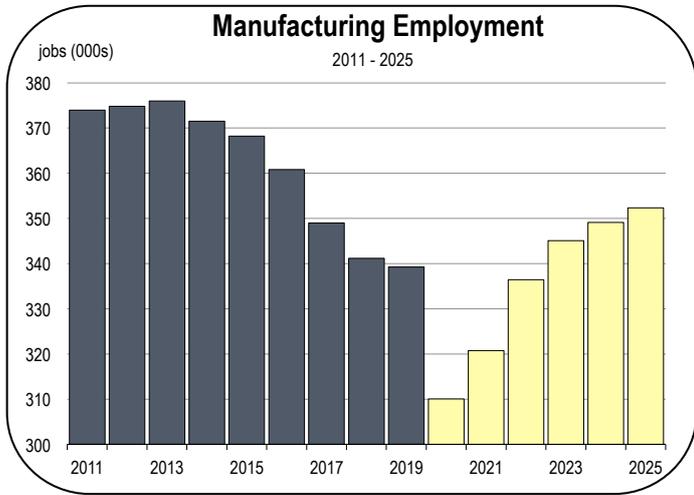
- In 2021, the county is expected to re-gain many of the jobs lost during the Coronavirus Recession.

Construction Employment

- The construction sector is expected to lose at least 6,000 jobs in 2020.
- Most California construction activity was deemed non-essential for several weeks in March and April, leading to significant construction layoffs that average down total employment in 2020.
- Construction employment will expand in 2021 and may return to pre-recession levels as early as 2022.



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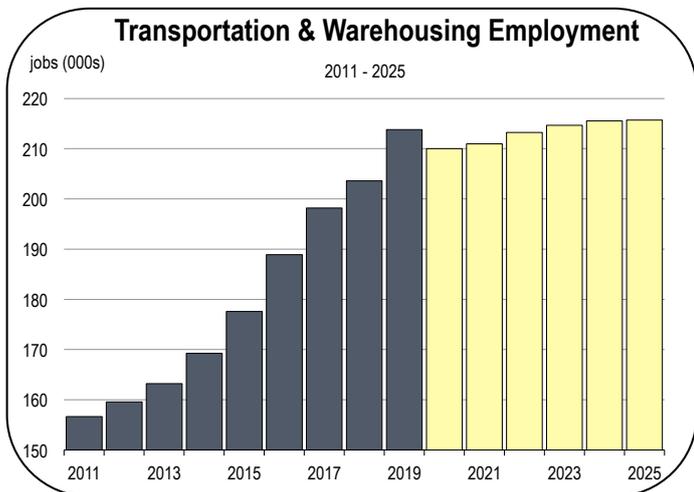


Manufacturing Employment

- Los Angeles County has heavy concentrations in food and beverage manufacturing, clothing manufacturing, computer and electronic manufacturing, and aerospace manufacturing.
- Manufacturing employment is expected to decline by approximately 30,000 jobs during 2020. Employment could begin to rebound in 2021 and continue to increase in 2022.

Transportation and Warehousing Employment

- Most transportation jobs in Los Angeles County are at LAX and other airports, trucking and local delivery services, and boat and water transportation firms.
- The number of flights at LAX declined by 90 percent during March and April, and rebounded very slowly afterwards, but the number of jobs at LAX and other airports is expected to decrease by only 10 percent during the 2020 calendar year.

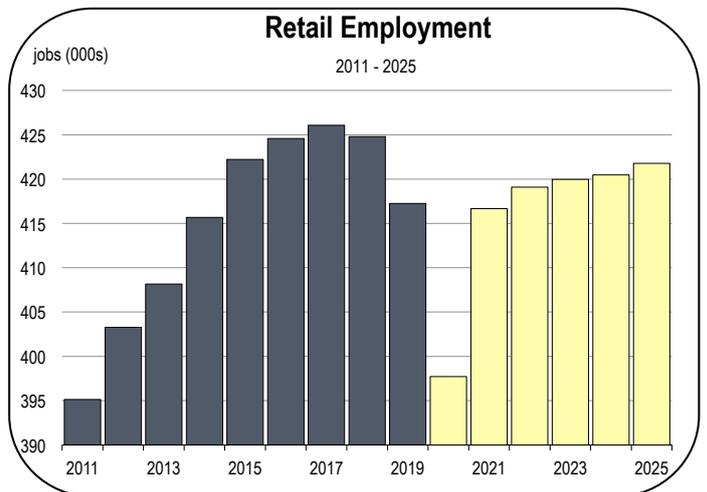


Transportation, Warehousing, and Utilities Sub-Sectors 2019	Jobs in Subsector (000s)	Subsector's Share of Overall Industry
Utilities	53.3	24.9%
Airports	40.9	19.1%
Trucking	27.8	13.0%
Local Delivery	25.6	12.0%
Boating & Water Transportation	15.1	7.1%
Warehousing & Storage	13.7	6.4%
Bus / Taxi / Special Needs Transpo.	9.8	4.6%
Other	27.6	12.9%

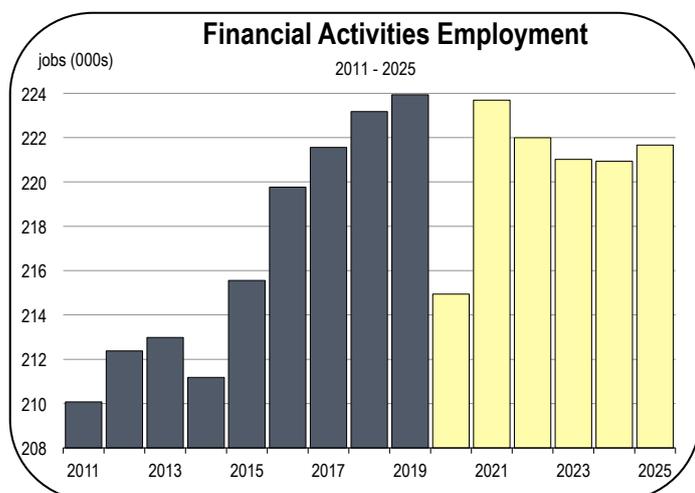
- Employment levels in trucking, boating, and warehousing were impacted by the reduction in global trade and the decline in domestic commerce.
- Local delivery firms hired large numbers of workers during the second quarter of 2020 and may be characterized by an increase in annual average employment levels during the entire 2020 calendar year.
- Utilities employment is not expected to change dramatically during 2020.

Retail Trade Employment

- The retail sector is expected to lose more than 19,000 jobs in 2020 on an annual average basis.
- Many large retail chains chose to furlough their employees rather than lay them off completely, and furloughed workers are not considered to be unemployed. This is a technical detail that will mask the true number of work stoppages in the retail sector.



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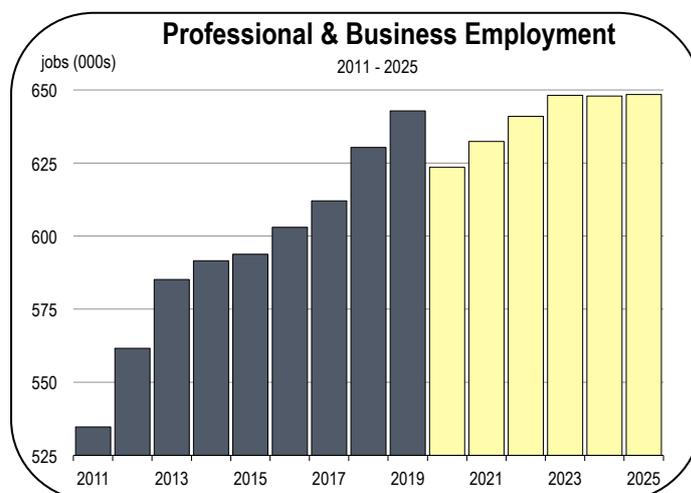


- Accounting for furloughed workers more than 40,000 retail workers could be effectively not working, and not earning an income, on an annual average basis in 2020.
- It is unknown when and if retail employment will eclipse pre-recession levels because of the strengthening demand trend towards online purchasing.

Financial Activities Employment

- Substantial job declines are expected in 2020 because many employers closed, committing their employees to shelter-in-place for health reasons.
- The most prominent losses are expected in real estate sales and lending.
- There are far fewer homes on the market than there were in 2019, and there is far less interest from potential buyers. This should translate into fewer home sales, reducing the need for real estate agents and mortgage brokers.
- Banks also reduced their head counts due to a temporary reduction of in-person branch visits.

Financial Activities Sub-Sectors 2019	Jobs in Subsector (000s)	Subsector's Share of Overall Industry
Real Estate	68.5	30.6%
Banks	59.7	26.7%
Insurance	49.7	22.2%
Asset Management	25.4	11.3%
Rental / Leasing Other than Real Estate	20.6	9.2%

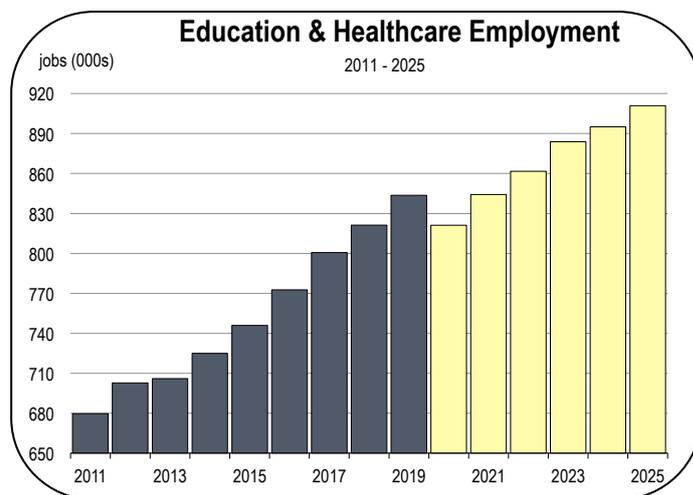
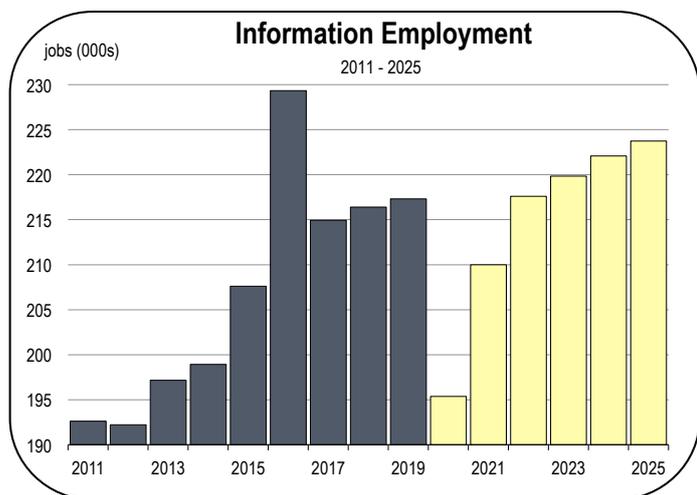


Professional and Business Services Employment

- The professional and business services industry has a diverse array of subsectors, and each was affected differently during the recession and recovery phases of 2020.
- The largest subsector - staffing agencies - was characterized by significant losses during the contraction, but may bounce back quickly in 2021 and 2022.
- Staffing agencies primarily employ temp workers, assigning them to various other businesses on a contract basis. Temp workers are usually laid off first during a downturn, but hired back first during a recovery.

Professional & Business Services Sub-Sectors 2019	Jobs in Subsector (000s)	Subsector's Share of Overall Industry
Staffing Agencies	118.5	18.4%
Corporate Headquarters	74.3	11.6%
Building Maintenance	71.0	11.0%
Law	63.2	9.8%
Corporate Security	62.8	9.8%
Accounting & Bookkeeping	52.1	8.1%
Business Consulting	46.7	7.3%
Custom IT Services	46.1	7.2%
Marketing and Advertising	45.2	7.0%
Engineering & Architecture	41.1	6.4%
Scientific Research	21.9	3.4%

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- Corporate security and building maintenance jobs also declined substantially, but most workers in other subsectors were able to work from home and were less affected by the Coronavirus Recession.

Information Employment

- In Los Angeles County, the information sector is dominated by the movie, TV, and sound recording industry. This subsector lost more than 60,000 jobs between February and May, and annual average employment levels for 2020 will be far below 2019.
- Job losses are also expected in newspaper and magazine publishing, both in print and online. Many of these workers were allowed to remain in their jobs, but advertising revenues shrank with the rest of the economy, giving employers little choice but to issue layoff notices.

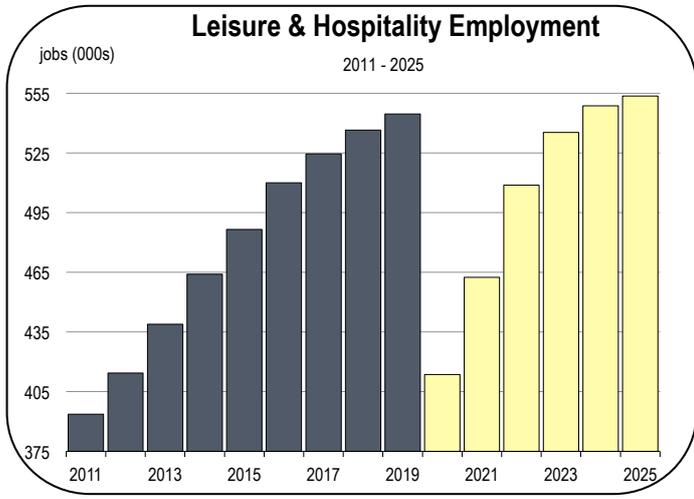
Information Sub-Sectors 2019	Jobs in Subsector (000s)	Subsector's Share of Overall Industry
Movie / TV / Sound Production	125.6	57.8%
Radio & TV Broadcasting	27.3	12.6%
Data & Internet Services	23.2	10.7%
Telecommunications	20.5	9.4%
Software Publishers	12.9	5.9%
Newspaper / Magazine / Book Publishing	7.8	3.6%

- Telecommunications and Internet services were largely classified as essential, and software publishers were able to work from home, leading to much fewer job losses.

Private Education and Healthcare Employment

- There were 439,000 healthcare jobs in Los Angeles County in 2019, representing half of all jobs in the broader private education and healthcare sector.
- Healthcare jobs were recession proof during the 2008-2009 financial crisis. However, some non-essential medical offices had to close in 2020, and hospitals reduced their employment levels because resources were not utilized as envisioned to support Coronavirus patients.
- There were approximately 270,000 social assistance jobs in 2019, including industries like childcare, housing shelters, and non-medical care for senior citizens.
- There were also 136,000 jobs in private schools and colleges, tutoring services, vocational schools, and other educational organizations.
- Jobs in social assistance and education were mostly classified as essential, but there are still likely to be layoffs at institutions with revenue shortfalls.

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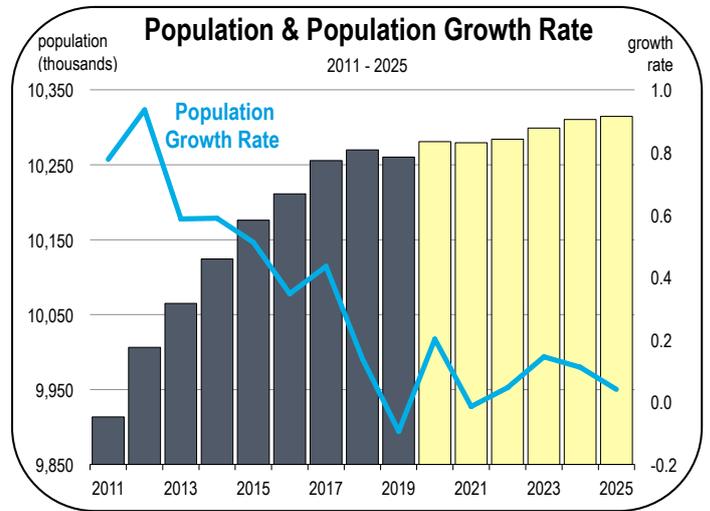
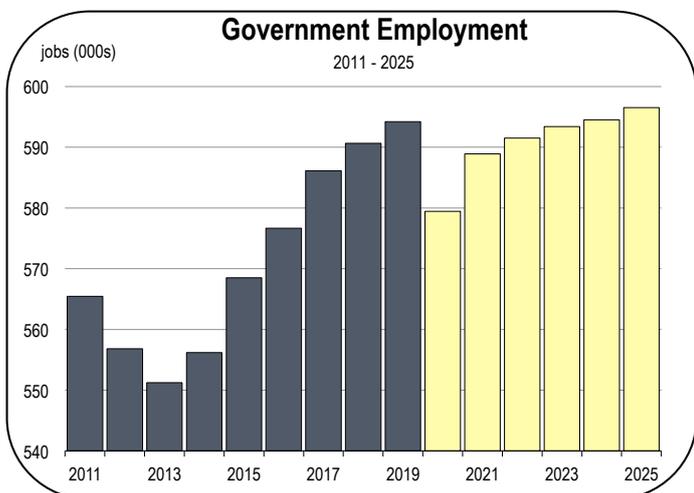


Leisure and Hospitality Employment

- Leisure and hospitality firms were impacted by the recession more than almost any other type of company.
- In 2019, Los Angeles County had almost 450,000 jobs in restaurants, hotels, and bars. Our research indicates that most were laid off, furloughed, or had their hour cut in the months of March and April.
- Jobs at hotels, restaurants, and bars will return slowly in 2021 and 2022.

Government Employment

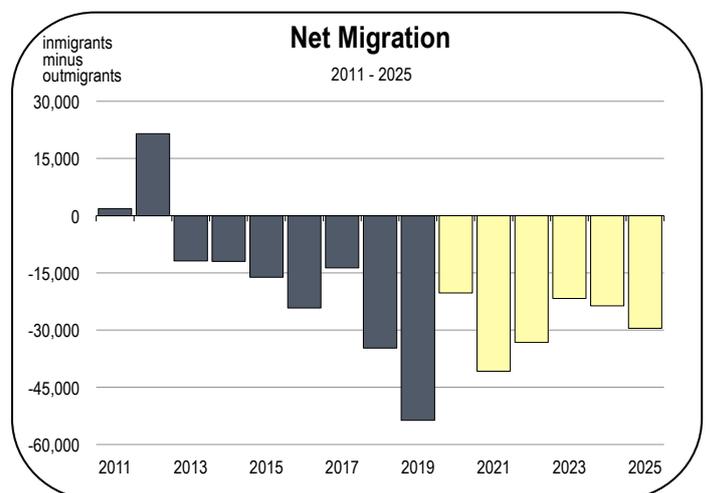
- Government agencies are expected to lose revenue from taxes and fees in 2020, and these revenue shortfalls will likely persist into 2021 and 2022.



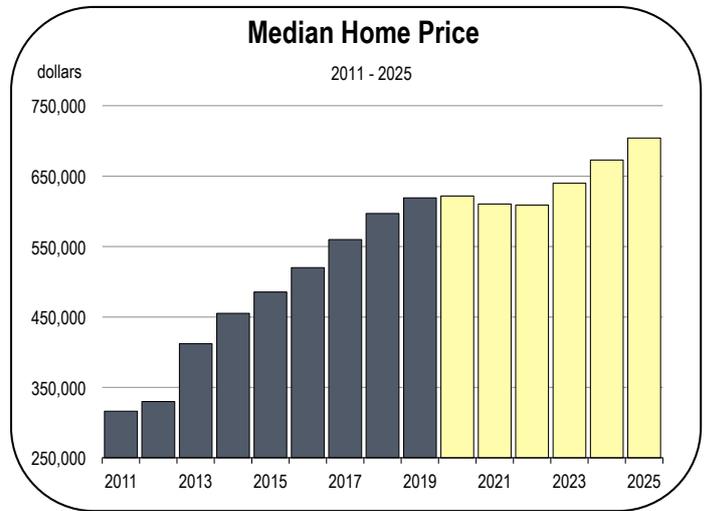
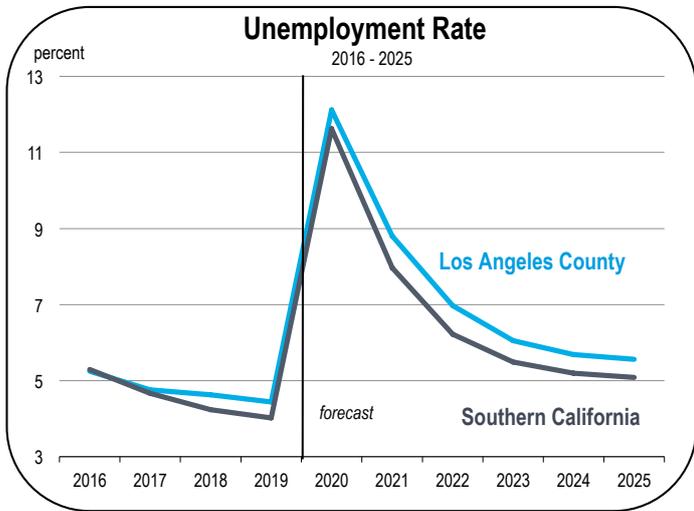
- When government agencies need to reduce expenditures on salaries, many workers are expected to be given unpaid furlough days that are distributed throughout the year, and many staffing reductions could be the result of hiring freezes rather than layoffs.
- However, if revenue shortfalls are severe and Congress does not appropriate funding to mitigate these shortfalls, government agencies may have no choice but to issue layoffs.

Population Growth

- The Los Angeles County population is growing more slowly than most of Southern California. The county wide population declined in 2019 but is expected to grow slowly in 2020.
- Net migration is expected to be negative throughout the 2020-2025 forecast period and the natural increase (new births) will account for all population growth.
- The population will grow at an average rate of 0.1 percent per year, and the county will surpass 10.3 million residents by 2025.



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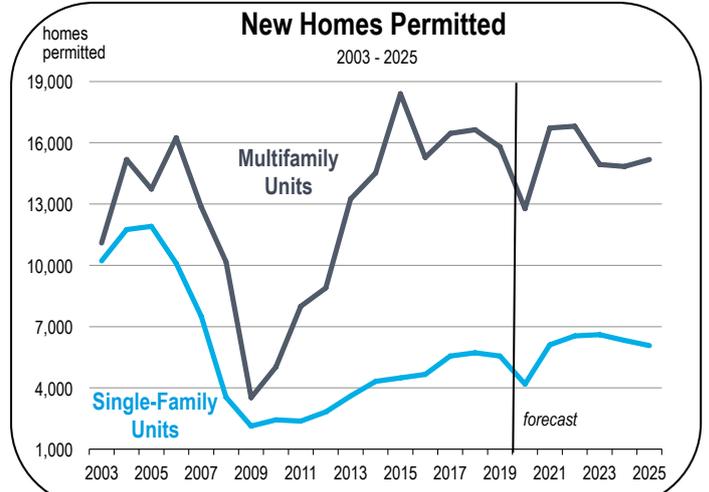
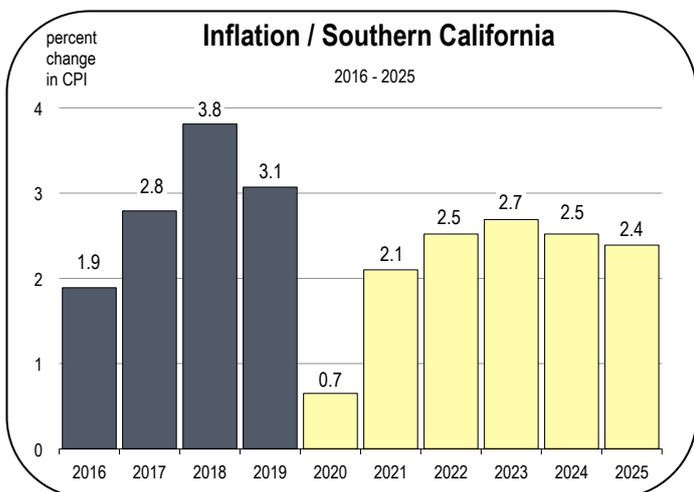


Unemployment and Inflation Rates

- The unemployment rate in Los Angeles County averaged 4.4 percent in 2019, which was higher than the composite rate for Southern California.
- The unemployment rate is expected to average between 11 and 13 percent in 2020.
- The unemployment rate is expected to remain elevated for several years, but is likely to improve more quickly than after the 2008-2009 recession.
- Inflation decelerated in 2019 as energy prices declined and home prices increased more slowly than the previous year.
- Inflation is expected to be very low in 2020 but could accelerate in 2021 or 2022.

Home Prices & New Housing Production

- The median home price was \$619,000 in 2019. Prices will not change much in 2020 or 2021.
- From 2014 to 2019, an average of 21,200 new homes were approved per year. Production is also forecast to average 21,200 homes per year from 2020 to 2025.
- Housing production declined sharply in the second quarter of 2020, as most housing construction was classified as a non-essential service. Construction should rebound sharply in 2021.
- Downtown Los Angeles was in the middle of a development surge. There were 54,000 multifamily units in the planning pipeline in early 2020 and many should resume construction later in the year.
- In the Santa Clarita Valley, the Newhall Ranch project will contain more than 21,000 homes that will be built over the next two decades.



Los Angeles County Economic Forecast

Economic Indicators

2015-2019 History, 2020-2050 Forecast

	Population (people)	House- holds (thousands)	Net Migration (people)	New Homes Permitted (homes)	Registered Vehicles (thousands)	Personal Income (billions)	Taxable Retail Sales (billions)	Total Taxable Sales (billions)	Real Industrial Production (billions)	Real per Capita Income (dollars)	Unemployment Rate (percent)	Real Farm Production (millions)	Inflation Rate (percent)
2015	10,176,031	3,281	-16,127	22,892	7,839	\$560	\$106.8	\$152.0	\$96.5	\$61,673	6.6	\$215	0.9
2016	10,211,351	3,297	-24,177	19,936	8,051	\$578	\$108.6	\$155.2	\$97.8	\$62,266	5.3	\$181	1.9
2017	10,255,733	3,315	-13,668	22,010	8,037	\$598	\$111.9	\$160.3	\$99.3	\$62,341	4.8	\$148	2.8
2018	10,269,935	3,330	-34,680	22,354	8,029	\$629	\$116.7	\$166.0	\$102.2	\$63,104	4.6	\$135	3.8
2019	10,260,237	3,350	-53,657	21,362	8,155	\$666	\$119.5	\$170.8	\$105.6	\$64,914	4.4	\$135	3.1
2020	10,280,920	3,366	-20,259	16,956	8,236	\$656	\$104.7	\$152.9	\$104.2	\$63,371	12.1	\$132	0.7
2021	10,279,450	3,379	-40,786	22,841	8,288	\$685	\$121.4	\$170.6	\$104.9	\$64,812	8.8	\$130	2.1
2022	10,284,170	3,396	-33,235	23,352	8,318	\$720	\$125.7	\$178.6	\$108.5	\$66,466	7.0	\$127	2.5
2023	10,299,050	3,414	-21,706	21,536	8,333	\$761	\$129.4	\$184.7	\$111.9	\$68,275	6.0	\$125	2.7
2024	10,310,490	3,432	-23,644	21,169	8,340	\$799	\$133.1	\$190.3	\$114.8	\$69,860	5.7	\$123	2.5
2025	10,314,640	3,450	-29,525	21,250	8,339	\$835	\$137.7	\$197.0	\$117.2	\$71,298	5.6	\$120	2.4
2026	10,320,820	3,467	-26,369	20,617	8,334	\$868	\$142.2	\$203.7	\$119.4	\$72,393	5.4	\$118	2.3
2027	10,322,260	3,485	-30,252	20,154	8,327	\$900	\$147.0	\$210.8	\$121.3	\$73,408	5.1	\$116	2.2
2028	10,310,920	3,501	-42,360	20,721	8,318	\$937	\$152.1	\$218.3	\$123.5	\$74,749	5.1	\$114	2.3
2029	10,301,860	3,518	-39,797	21,108	8,307	\$969	\$156.1	\$224.5	\$124.9	\$75,590	5.1	\$112	2.4
2030	10,294,490	3,535	-37,401	21,106	8,296	\$1,001	\$159.8	\$230.0	\$126.4	\$76,476	5.1	\$111	2.3
2031	10,286,720	3,553	-36,459	20,795	8,287	\$1,035	\$163.5	\$235.2	\$127.9	\$77,418	5.0	\$109	2.2
2032	10,272,810	3,570	-40,723	19,868	8,282	\$1,068	\$167.3	\$240.8	\$129.1	\$78,161	5.1	\$107	2.4
2033	10,266,630	3,588	-32,082	19,500	8,276	\$1,103	\$170.5	\$245.4	\$130.8	\$79,184	5.2	\$106	2.0
2034	10,267,500	3,605	-23,819	19,087	8,267	\$1,139	\$174.3	\$250.9	\$132.3	\$80,046	5.1	\$104	2.2
2035	10,270,200	3,623	-20,834	19,182	8,253	\$1,177	\$178.3	\$256.7	\$133.8	\$80,845	5.1	\$103	2.3
2036	10,267,300	3,639	-24,487	19,176	8,239	\$1,216	\$183.2	\$263.8	\$134.7	\$81,418	5.2	\$101	2.7
2037	10,265,400	3,656	-21,749	19,120	8,227	\$1,258	\$188.5	\$271.3	\$135.5	\$81,925	5.1	\$100	2.8
2038	10,261,280	3,672	-21,716	19,067	8,218	\$1,300	\$193.5	\$278.6	\$136.4	\$82,604	5.1	\$99	2.6
2039	10,252,480	3,688	-24,131	18,556	8,212	\$1,344	\$199.0	\$286.5	\$137.2	\$83,198	5.1	\$97	2.8
2040	10,245,110	3,704	-19,748	18,319	8,205	\$1,389	\$204.3	\$294.2	\$137.9	\$83,800	5.1	\$96	2.7
2041	10,234,570	3,720	-20,085	17,880	8,198	\$1,434	\$209.4	\$301.5	\$138.9	\$84,524	5.1	\$95	2.5
2042	10,216,810	3,735	-25,344	17,421	8,188	\$1,480	\$214.3	\$308.7	\$139.9	\$85,381	5.1	\$94	2.4
2043	10,194,300	3,750	-28,751	16,932	8,174	\$1,528	\$219.2	\$315.8	\$141.0	\$86,366	5.1	\$93	2.3
2044	10,182,950	3,765	-16,595	16,356	8,156	\$1,575	\$223.7	\$322.2	\$142.3	\$87,312	5.1	\$92	2.1
2045	10,173,010	3,780	-13,872	15,616	8,132	\$1,623	\$228.7	\$329.5	\$143.3	\$88,055	5.1	\$91	2.3
2046	10,159,840	3,794	-15,917	15,024	8,104	\$1,670	\$233.3	\$336.3	\$144.4	\$88,839	5.1	\$90	2.2
2047	10,143,670	3,808	-17,417	14,289	8,071	\$1,719	\$238.2	\$343.4	\$145.3	\$89,638	5.1	\$89	2.2
2048	10,126,000	3,821	-17,041	13,511	8,036	\$1,769	\$243.0	\$350.4	\$146.3	\$90,435	5.1	\$88	2.2
2049	10,107,630	3,833	-15,540	13,168	7,999	\$1,820	\$247.9	\$357.6	\$147.2	\$91,253	5.1	\$87	2.2
2050	10,089,040	3,845	-13,539	12,774	7,962	\$1,873	\$253.3	\$365.2	\$148.1	\$92,069	5.1	\$87	2.2

Employment Sectors

2015-2019 History, 2020-2050 Forecast

	Total Wage & Salary	Farm	Construction	Manufac- turing	Transportation & Utilities	Wholesale & Retail Trade	Financial Activities	Professional Services	Information	Health & Education	Leisure	Government
	(thousands of jobs)											
2015	4,293	5.0	126.1	368.2	177.6	644.6	215.6	593.8	207.6	745.9	486.6	568.5
2016	4,403	5.3	134.0	360.8	188.9	646.7	219.8	603.0	229.4	772.7	510.0	576.7
2017	4,457	5.7	138.7	349.0	198.2	647.6	221.6	612.1	214.9	800.6	524.6	586.1
2018	4,523	4.6	146.3	341.2	203.6	648.0	223.2	630.4	216.4	821.3	536.5	590.6
2019	4,571	4.5	149.3	339.2	213.8	637.7	223.9	642.8	217.3	843.6	544.7	594.2
2020	4,265	4.5	142.5	310.0	210.0	612.7	214.9	623.5	195.4	821.2	413.6	579.4
2021	4,432	4.5	150.4	320.7	211.0	634.5	223.7	632.4	210.0	844.2	462.5	588.9
2022	4,545	4.5	151.8	336.4	213.2	638.8	222.0	640.9	217.6	861.7	508.9	591.5
2023	4,620	4.5	151.5	345.1	214.7	640.0	221.0	648.1	219.8	883.9	535.4	593.4
2024	4,654	4.5	151.3	349.1	215.5	640.9	220.9	647.9	222.1	895.1	548.7	594.5
2025	4,686	4.5	150.9	352.3	215.7	642.5	221.7	648.4	223.7	910.9	553.7	596.5
2026	4,705	4.5	151.0	355.5	215.8	644.3	222.4	648.8	225.0	918.4	558.1	595.0
2027	4,722	4.5	151.1	358.3	215.7	646.5	223.1	649.7	226.3	925.6	560.5	593.4
2028	4,738	4.5	150.2	361.1	215.3	649.1	223.8	650.5	228.2	931.3	562.8	591.8
2029	4,752	4.4	149.9	363.4	214.9	650.5	224.3	651.6	229.4	938.4	564.5	589.5
2030	4,765	4.4	148.7	365.1	214.7	651.5	224.9	653.2	230.5	945.3	566.1	587.7
2031	4,778	4.4	148.1	366.6	214.8	652.5	225.4	654.7	231.7	952.1	568.4	585.7
2032	4,788	4.4	145.3	368.0	214.7	653.1	226.0	655.9	232.6	959.2	569.9	583.5
2033	4,799	4.4	143.7	369.4	214.9	653.8	226.7	656.6	233.9	966.2	571.0	581.5
2034	4,814	4.4	143.2	370.6	215.4	654.6	227.4	657.9	234.8	973.1	573.6	580.1
2035	4,829	4.4	142.4	371.9	216.0	655.3	228.0	659.5	235.6	980.3	576.1	578.9
2036	4,843	4.4	141.2	373.0	216.4	656.2	228.6	661.1	236.2	987.3	578.6	578.7
2037	4,858	4.4	140.6	374.1	216.5	656.9	229.3	662.8	236.7	994.2	581.1	578.4
2038	4,874	4.4	140.8	375.2	216.5	657.8	230.0	664.4	237.4	1,001.6	582.9	578.1
2039	4,889	4.4	140.8	376.2	216.6	658.6	230.7	666.0	238.1	1,008.8	584.9	577.7
2040	4,906	4.4	142.9	377.2	216.7	659.4	231.4	667.3	238.7	1,015.9	586.9	577.3
2041	4,921	4.4	142.9	378.1	216.7	660.1	232.1	668.7	239.5	1,023.1	588.6	577.0
2042	4,935	4.4	141.6	379.0	216.7	660.8	232.8	669.8	240.4	1,030.5	590.6	576.7
2043	4,951	4.4	141.6	379.9	216.5	661.6	233.6	670.9	241.6	1,037.9	592.8	576.7
2044	4,966	4.4	141.5	380.8	216.7	662.3	234.3	671.9	242.5	1,045.0	595.0	577.0
2045	4,983	4.3	142.2	381.6	217.1	663.1	235.0	673.1	243.2	1,052.2	596.7	577.6
2046	4,996	4.3	139.8	382.5	217.6	663.7	235.6	673.9	244.0	1,059.8	598.6	578.3
2047	5,012	4.3	139.2	383.3	217.6	664.4	236.3	674.6	244.8	1,067.4	600.5	579.2
2048	5,025	4.3	136.9	384.1	217.6	665.0	237.0	675.1	245.6	1,074.8	602.3	580.2
2049	5,040	4.3	135.8	384.9	217.7	665.6	237.7	675.8	246.3	1,082.1	604.2	581.3
2050	5,055	4.3	134.6	385.6	217.9	666.4	238.3	676.9	247.1	1,089.7	606.0	582.4

Los Angeles County Economic Forecast

Socioeconomic Indicators

